

4 PGS CHMS

WHAT IS CLAIMED IS:

1. A method of making a top stack linkage for a convertible top for a vehicle, comprising:
molding magnesium in a thixotropic molding process to form a one
5 bow including a front rail portion, a plurality of side rails, and a plurality of links;
and
assembling the front rail portion, side rails and links together with a
plurality of bows to form the top stack linkage for the convertible top.
2. The method of claim 1 further comprising molding magnesium
10 in a thixotropic molding process to form a plurality of end portions of a plurality of
transversely extending bows, providing a plurality of central portions of the each of
the plurality of bows, and assembling two of the end portions to each of the central
portions to form the plurality of bows.
3. The method of claim 2 further comprising extruding the
15 central portions of the bows in an aluminum extrusion process.
4. The method of claim 1 wherein the molding step further
includes molding a plurality of fastener bosses, reinforcing ribs and pivot pin
retainers on the front rail portion, the plurality of side rails, and the plurality of
links.
- 20 5. The method of claim 1 wherein the molding step further
comprises molding a rear rail and at least one pressure link.
6. The method of claim 1 wherein the side rails include a center
rail and a rear rail.
7. The method of claim 1 wherein the links include a scissor
25 link, control link, pivot link, and a pressure link.

8. A top stack linkage for a convertible top for a vehicle having a windshield header, the top stack linkage comprising:

a one bow that is selectively secured to the windshield header, the one bow being integrally molded to include right and left front rails;

5 right and left center rails pivotally connected to the right and left front rails, respectively;

right and left rear rails pivotally connected to the right and left center rails, respectively;

10 right and left pivot links pivotally connected to the right and left center rails and the right and left rear rails on right and left triple pivot pins;

right and left control links pivotally connected to the right and left front rails and to the right and left triple pivot pins, respectively;

15 a two bow extends between and is attached to the right and left center rails, and a three bow and a four bow extends between and are attached to the right and left pivot links.

9. The top stack linkage of claim 8 further comprising a five bow extending between and attached to the right and left pivot links by right and left pressure links, respectively.

20 10. The top stack linkage of claim further comprising right and left cylinders connected between the right and left center rails and the right and left control links, wherein the cylinders exert a biasing force on the control links to lift the one bow off of the windshield header when the top stack is initially retracted.

11. A convertible top for a vehicle having a passenger compartment, comprising:

25 a top stack linkage having a right side and a left side;

a cover secured to the top stack linkage and spanning between the right side and the left side to enclose the passenger compartment of the vehicle;

30 the right and left sides of the top stack linkage each having a pivot link that is pivotally connected to two different bows, each pivot link being pivotally connected to one of the sides of the top stack linkage.

12. The convertible top of claim 11 wherein the pivot link is connected to a tensioning link that applies tension to a rear bow, the tensioning link being connected to the pivot link at a location that is disposed rearward of the location where the pivot link is connected to the right and left top stack linkages.

5 13. The convertible top of claim 11 wherein the pivot link is connected by a triple pivot to a center rail and a rear rail.

14. The convertible top of claim 13 wherein the pivot link is pivotally connected to a control link at a location that is disposed forward of the triple pivot.

10 15. The convertible top of claim 11 wherein the pivot link is pivotally connected to a control link.

16. The convertible top of claim 11 wherein the two different bows are each secured to the cover.

15 17. A convertible top for a vehicle having a passenger compartment, comprising:

a top stack linkage having a right side and a left side;

a cover secured to the top stack linkage and spanning between the right side and the left side to enclose the passenger compartment of the vehicle;

20 the right and left sides of the top stack linkage each having a main spring secured to a pivot pin that is connected to a main pivot bracket that is assembled to the vehicle, a rear rail being connected to the main pivot bracket on a lower end and to other parts of the top stack linkage on its upper end, a balance link secured to the pivot pin on its lower end and to a center link on its upper end, wherein the main spring provides a counterbalancing force on the balance link that
25 assists in lifting the top stack linkage as the convertible top is retracted and extended.

18. The convertible top of claim 17 wherein the main spring has a forked end that engages the balance link.

19. The convertible top of claim 7 wherein the right and left sides of the top stack linkage each further comprise a cylinder connected between the center rail and a control link, wherein the cylinder exerts a biasing force on the control link to lift a front portion of the top stack linkage as the convertible top is retracted.